



RILCO

**laminated
wood
products**

description

Rilco arches, beams and trusses are laminated from kiln-dried West Coast Douglas Fir, bonded with structural glues stronger than the wood itself. Rilco production facilities combine with reliable engineering to produce from wood, the oldest building material known to man, a modern structural member of strength and beauty. Every Rilco product is carefully manufactured in accordance with best practices of the industry and under strict quality control supervision.

engineering

Rilco structural members are designed for the specific loads and span conditions of their individual functions. Rilco engineers establish cross-sectional dimensions in proportion to stresses. Where required, detailed shop drawings are prepared and submitted on all projects. Our large technical staff is of proven competence . . . will cooperate with you to develop the best design for your job, suggesting economies based on long experience.

RILCO

selected lumber

Uniformly special dried lumber is used in manufacturing Rilco glued-laminated members. This results in excellent dimensional stability and virtually eliminates checking. Each lamination is structurally graded and arranged within the member in relation to the design.

appearance

Laminated members combine structural efficiency with the beauty of fine wood. As they are custom-made for each installation, Rilco members allow full freedom of expression in form and appearance. Their natural beauty and distinctive appearance add drama and warmth to any interior. Rilco arches and beams are machine surfaced and appearance otherwise enhanced in accordance with specified A.I.T.C. Appearance Grades.

fire safety

Based on standard fire temperatures of the American Society for Testing Materials tests of building materials, temperature of 1100° F. is reached within six minutes. At this temperature certain structural metals have less than one-half of their normal tensile strength, and at 1700° F. they will not support the dead weight of the structure. Laminated wood structural members, being of relatively large cross-section, lose their strength only in proportion to the degree of charring under fire temperatures. Penetration tests on wood exposed to standard fire temperatures show that in general wood chars and burns at the rate of about one inch in depth in 33 minutes. This ability to retain strength under high temperatures allows time . . . very often time enough to save the structure and contents.

cost estimates

To obtain budget estimates submit a print of the plans or a descriptive sketch accompanied by the following data:

Type of Building	Spacing	Center Height
Type of Member	Wall Height	Dead Load
Span	Type of Wall Construction	Live Load



ECCLESIASTICAL

Widespread popularity of laminated wood tangent arches and beams for ecclesiastical buildings is due to their economy, distinctive beauty and adaptability to traditional and contemporary architecture. It is estimated that over 75% of all new church projects employ glued laminated structural members.



RESIDENTIAL

Rilco laminated beams and columns, adaptable to any building module, facilitate open planning and curtain walls. The roof deck serves as a finished ceiling, which saves the cost and labor of installing joists, bridging, sheathing, lath and plaster.

consulting service

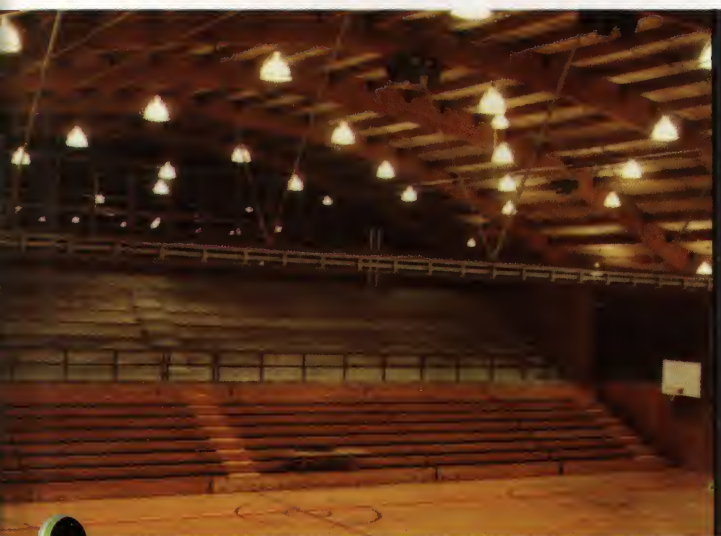
Our Field Sales Engineers are experienced Rilco building consultants who can advise and recommend the type of member best suited to your job. Working out of all Rilco district offices, our engineers will gladly help with specific design problems. They can provide information on spans and special forms not illustrated in this catalog. The next building you plan in which use of wood structural members is indicated, contact the nearest office listed on the back cover. There is no obligation for this helpful service. The Rilco engineering staff checks all designs before products are manufactured. Arch reaction data for foundation design is included on shop drawings.

LAMINATED PRODUCTS



COMMERCIAL

The inviting appearance and economy of laminated beams, arches and Rilco Deck make them ideal for construction of stores, supermarkets and commercial buildings.



SCHOOLS-AUDITORIUMS

You're bound to have economy when structural members furnish their own beautiful interior finish. Rilco beams add to the appearance of classrooms. Tangent, radial or utility arches and Rilco trusses are popular for construction of gymnasiums and auditoriums.

INDEX

Tangent Arches	4 - 9
Radial Arches	8 - 9
Beams and Purlins	10 - 12
Specifications	13
Tied Arches	14
Bowstring Trusses	15
Rilco Deck	16 - 17
Industrial	18 - 19
Formwork	18 - 19
Special Products	18 - 19

tangent arch systems

Rilco tangent arches allow freedom of architectural design and appearance . . . blend with any style or concept. They offer the warmth, friendliness and appearance of fine wood plus economy and fire safety.

Tangent arches are individually designed to fit the architectural plans. All systems are carefully analyzed and checked by experienced Rilco engineers before members are fabricated.

Because they arrive on the jobsite completely cut and drilled, assembly and erection of Rilco's structural members are remarkably simple and economical. Costly on-the-job cutting and fitting are eliminated by precision factory techniques. Rilco arches combine lightness in weight for easy erection with remarkable strength and rigidity.

schools



Banner County School, Harrisburg, Nebraska. Rilco Tangent Arches of 11" x 52½" section at tangent points are 100' in span. Architect: Robert W. Ditzen, Boulder, Colorado.



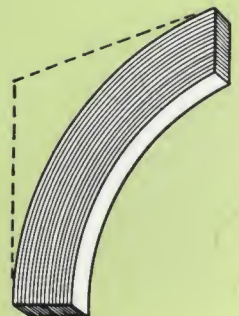
Hereford Township Elementary School, Palm, Penna. Arches are 49'4" in span and 5¼" x 16¾" in section. Center height is 20'3". Architects: Wolf & Hahn, Allentown, Penna.

variations

shape



OPEN KNEE



commercial



Acme Supermarket, Clifton, Penna. Arches are 125'7 $\frac{1}{8}$ " in span, spaced 16' o.c. and 11" x 41 $\frac{3}{8}$ " in section. Rilco Deck of Western Red Cedar. Architects: Kelly & Gruzen, New York City.

churches



Church of St. Pius X, White Bear Lake, Minn. Rilco arches are 50'6" in span and spaced 12'4" o.c. Architect: Eugene V. Schaefer & Associates, St. Paul, Minn.



Laminated arches and purlins in St. Luke's Church, Manhattan, Kansas make the structural framing an integral part of the character of the building. Architects: Ramey & Himes, Wichita.



Wallace Motor Court Swimming Pool, Effingham, Ill. Rilco arches are 50' in span, spaced 16'5 $\frac{1}{4}$ " o.c. Section size is 5 $\frac{1}{4}$ " x 17 $\frac{1}{4}$ " at tangent points and base, tapered to 5 $\frac{1}{4}$ " x 12" at crown.



Temple of Aaron, St. Paul, Minn. Arches of 11" x 25 $\frac{3}{4}$ " section and 28'5" center height, span 62'2". Architect: Percival Goodman, New York City.



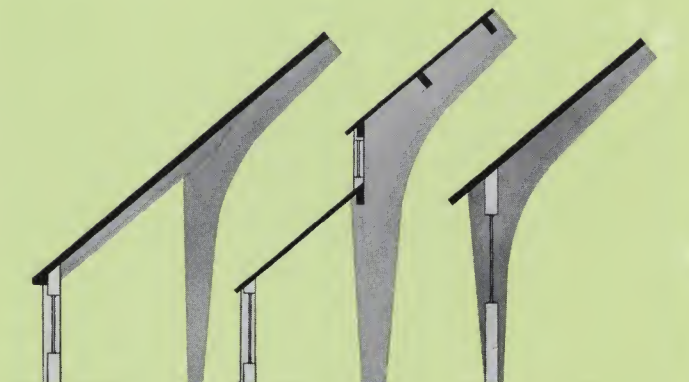
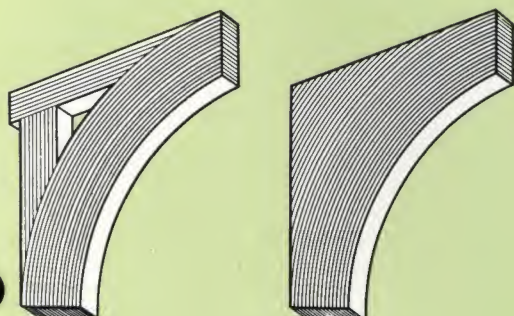
St. Paul's Episcopal Church, Minneapolis, Minn. Arches are 11" x 14 $\frac{1}{4}$ ", spaced 18' o.c., span 46 feet. Architects: McEnary & Kraft, Minneapolis.

knee

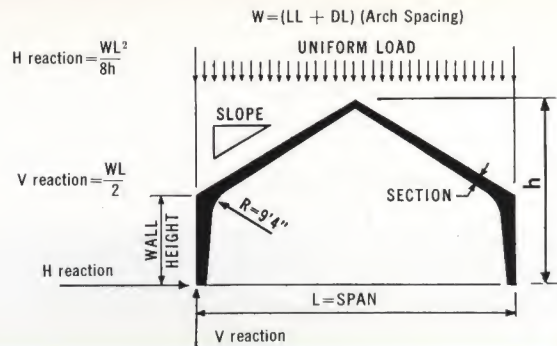
wall

BUILT-UP KNEE

SOLID KNEE



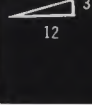
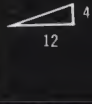
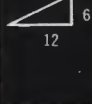
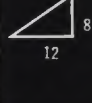
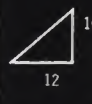
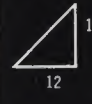
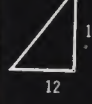
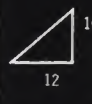
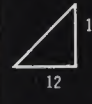
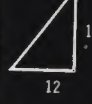
SECTIONS



SPAN		30'				35'				40'				45'				50'			
SLOPE	WALL HT.	W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.			
		400	600	800	1000	400	600	800	1000	400	600	800	1000	400	600	800	1000	400	600	800	1000
	20	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x19½	7 x20½	7 x21½	5½x18	7 x18½	7 x21½	7 x24	5½x19½	7 x21	7 x24	7 x26½
	18	5½x12	5½x14½	5½x16½	5½x18½	5½x13½	5½x16½	5½x19½	5½x21	5½x15½	5½x18½	7 x18½	7 x21	5½x17½	5½x21	7 x21	7 x23½	5½x19½	7 x20½	7 x23½	7 x26½
	16	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x15½	5½x18½	5½x20½	5½x15	5½x18	5½x21	7 x20½	5½x16½	5½x20½	7 x20½	7 x22½	5½x18½	7 x19½	7 x22½	7 x24½
	14	5½x11½	5½x13½	5½x15	5½x17½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x20½	7 x19½	5½x15½	5½x19½	7 x19½	7 x21½	5½x18	7 x18½	7 x21½	7 x24
	12	3½x12½	5½x12	5½x14½	5½x15½	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x21	7 x20½	5½x16½	5½x19½	7 x20½	7 x22½
	10	3½x12	5½x11½	5½x12½	5½x14½	5½x11½	5½x13½	5½x15	5½x17½	5½x12½	5½x15	5½x17½	7 x16½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x18½	7 x18½	—
	8	3½x10½	5½x9½	—	—	5½x10½	5½x12	—	—	5½x11½	—	—	—	5½x12½	—	—	—	5½x13½	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x12	5½x14½	5½x16½	5½x18½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x18½	7 x18½	7 x21	5½x17½	5½x21	7 x21	7 x24	5½x19½	7 x20½	7 x23½	7 x26½
	18	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x21	7 x20½	5½x16½	5½x17½	7 x20½	7 x22½	5½x18½	7 x19½	7 x22½	7 x24½
	16	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x18	5½x20½	7 x19½	5½x16½	5½x19½	7 x19½	7 x21½	5½x18	7 x18½	7 x21½	7 x24
	14	5½x10½	5½x12½	5½x15	5½x16½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x18½	7 x18½	7 x21	5½x17½	5½x21	7 x21	7 x23½
	12	3½x12½	5½x12½	5½x14½	5½x15½	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x16½	5½x18½	5½x20½	5½x15	5½x18	5½x20½	7 x19½	5½x16½	5½x19½	7 x19½	7 x21½
	10	3½x12	5½x11½	5½x12½	5½x14½	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x15	5½x17½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x21	7 x20½
	8	3½x9½	3½x12	5½x11½	—	3½x12	5½x11½	5½x12½	—	5½x10½	5½x12½	—	—	5½x12	5½x15	—	—	5½x13½	5½x15½	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x12	5½x14½	5½x16½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x21	7 x21	5½x16½	5½x20½	7 x20½	7 x22½	5½x18½	7 x20½	7 x23½	7 x25½
	18	5½x11½	5½x13½	5½x15½	5½x18	5½x12½	5½x15½	5½x18	5½x20½	5½x15	5½x18	5½x20½	7 x20½	5½x16½	5½x19½	7 x19½	7 x21½	5½x18½	7 x19½	7 x22½	7 x24½
	16	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x18½	7 x18½	7 x21	5½x18	7 x18½	7 x21½	7 x24
	14	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x15	5½x17½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x21	7 x20½	5½x17½	5½x20½	7 x20½	7 x22½
	12	3½x12½	5½x12	5½x14½	5½x15½	5½x11½	5½x14½	5½x16½	5½x18	5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x20½	7 x19½	5½x15½	5½x19½	7 x19½	7 x21½
	10	3½x12	5½x11½	5½x12½	5½x14½	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x14½	5½x16½	5½x18½	5½x13½	5½x15½	5½x18	5½x20½	5½x15	5½x18	5½x20½	7 x20½
	8	3½x10½	3½x12½	5½x11½	5½x12½	3½x12	5½x11½	5½x12½	5½x14½	5½x10½	5½x12½	5½x14½	—	5½x11½	5½x14½	5½x16½	—	5½x12½	5½x15½	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x15½	5½x18½	5½x20½	5½x15	5½x18	5½x21	7 x19½	5½x16½	5½x19½	7 x19½	7 x21½	5½x18	7 x18½	7 x21½	7 x24
	18	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x20½	7 x19½	5½x15½	5½x19½	7 x18½	7 x21	5½x17½	5½x21	7 x21	7 x23½
	16	5½x10½	5½x12½	5½x15	5½x16½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15½	5½x18½	7 x18½	7 x21	5½x16½	5½x20½	7 x20½	7 x22½
	14	3½x12½	5½x12½	5½x14½	5½x15½	5½x12	5½x14½	5½x16½	5½x18	5½x13½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x20½	7 x19½	5½x15½	5½x18½	7 x18½	7 x21
	12	3½x12½	5½x12	5½x13½	5½x15	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15	5½x17½	5½x19½	5½x13½	5½x16½	5½x19½	7 x18½	5½x15	5½x18	5½x21	7 x20½
	10	3½x11½	5½x11½	5½x12½	5½x14½	3½x12½	5½x12½	5½x14½	5½x15½	5½x11½	5½x14½	5½x15½	5½x18	5½x12½	5½x15	5½x17½	5½x19½	5½x13½	5½x16½	5½x18½	5½x21
	8	3½x10½	5½x9½	5½x11½	5½x12½	3½x12½	5½x11½	5½x12½	5½x17½	5½x10½	5½x12½	5½x14½	5½x15½	5½x11½	5½x13½	5½x15½	5½x17½	5½x12	5½x15	5½x16½	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x11½	5½x13½	5½x15½	5½x18	5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x19½	7 x19½	5½x15½	5½x18½	7 x18½	7 x21	5½x17½	5½x20½	7 x20½	7 x22½
	18	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15	5½x18½	5½x21	7 x20½	5½x16½	5½x20½	7 x20½	7 x22½
	16	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x15	5½x16½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21	5½x15	5½x18	5½x20½	7 x19½	5½x15½	5½x19½	7 x18½	7 x21
	14	3½x12½	5½x12½	5½x14½	5½x15½	5½x12	5½x14½	5½x16½	5½x18	5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15	5½x18	5½x21	7 x20½
	12	3½x12	5½x12	5½x13½	5½x15	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x14½	5½x16½	5½x18½	5½x12	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x19½	7 x18½
	10	3½x11½	5½x10½	5½x12½	5½x13½	3½x12½	5½x12	5½x13½	5½x15½	5½x11½	5½x13½	5½x15½	5½x17½	5½x12	5½x14½	5½x16½	5½x18½	5½x12½	5½x15½	5½x18	5½x20½
	8	3½x10½	3½x12	5½x11½	5½x12½	3½x11½	5½x11½	5½x12½	5½x14½	3½x12½	5½x12	5½x13½	5½x15½	5½x10½	5½x12½	5½x15	5½x16½	5½x11½	5½x14½	5½x15½	5½x18
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x11½	5½x13½	5½x15½	5½x17½	5½x12½	5½x15	5½x17½	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15	5½x18½	5½x21	7 x20½	5½x16½	5½x20½	7 x20½	7 x22½
	18	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x15	5½x16½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21	5½x14½	5½x18	5½x20½	7 x19½	5½x15½	5½x18½	7 x18½	7 x21
	16	3½x12½	5½x12½	5½x14½	5½x15½	5½x11½	5½x14½	5½x15½	5½x18	5½x12½	5½x15½	5½x18	5½x19½	5½x14½	5½x17½	5½x19½	7 x18½	5½x15	5½x18	5½x21	7 x20½
	14	3½x12	5½x11½	5½x12½	5½x14½	5½x11½	5½x13½	5½x15½	5½x17½	5½x12	5½x15	5½x17½	5½x18½	5½x13½	5½x16½	5½x18½	5½x20½	5½x14½	5½x17½	5½x20½	7 x19½
	12	3½x11½	5½x10½	5½x12	5½x13½	3½x12½	5½x12½	5½x14½	5½x16½	5½x11½	5½x14½	5½x16½	5½x18	5½x12½	5½x15	5½x17½	5½x19½	5½x13½	5½x16½	5½x18½	5½x21
	10	3½x10½	3½x12½	5½x11½	5½x12½	3½x12	5½x12	5½x13½	5½x15	5½x10½	5½x12½	5½x15	5½x16½	5½x11½	5½x14½	5½x15½	5½x18	5½x12	5½x15	5½x17½	5½x18½
	8	3½x9½	3½x11½	3½x12½	5½x12	3½x11½	5½x10½	5½x12	5½x13½	3½x12	5½x12	5½x13½	5½x15	3½x12½	5½x12½	5½x17½	5½x16½	5½x11½	5½x13½	5½x15½	5½x17½
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	5½x10½	5½x12½	5½x15	5½x17½	5½x12	5½x14½	5½x16½	5½x18½	5½x13½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x20½	7 x19½	5½x15	5½x18½	5½x21	7 x21
	18	3½x12½	5½x12½	5½x14½	5½x15½	5½x11½	5½x14½	5½x16½	5½x18	5½x12½	5½x15½	5½x18	5½x19½	5½x13½	5½x16½	5½x19½	5½x21	5½x15	5½x18	5½x20½	7 x20½
	16	3½x12½	5½x12	5½x14½	5½x15½	5½x11½	5½x13½	5½x15½	5½x17½	5½x12	5½x15	5½x17½	5½x18½	5½x13½	5½x15½	5½x18½	5½x20½	5½x14½	5½x17½	5½x19½	7 x19½
	14	3½x12	5½x11½	5½x13½	5½x15	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x14½	5½x16½	5½x18	5½x12½	5½x15	5½x17½	5½x18½	5½x13½	5½x16½	5½x18½	5½x21
	12	3½x11½	5½x11½	5½x12½	5½x14½	3½x12½	5½x12	5½x14½	5½x15½	5½x10½	5½x12½	5½x15	5½x16½	5½x12	5½x14½	5½x15½	5½x18	5½x12½	5½x15	5½x17½	5½x19½
	10	3½x9½	5½x9½	5½x11½	5½x12½	3½x11½	5½x11½	5½x12½	5½x14½	3½x12½	5½x12	5½x14½	5½x15½	5½x10½	5½x13½	5½x15	5½x17½	5½x12	5½x14½	5½x16½	5½x18
	8	3½x9½	3½x12	5½x10½	5½x12	3½x10½	3½x12½	5½x12	5½x12½	3½x11½	5½x11½	5½x12½	5½x14½	3½x12	5½x12	5½x13½	5½x15	3½x12½	5½x12½	5½x14½	5½x15½
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		400	600																		

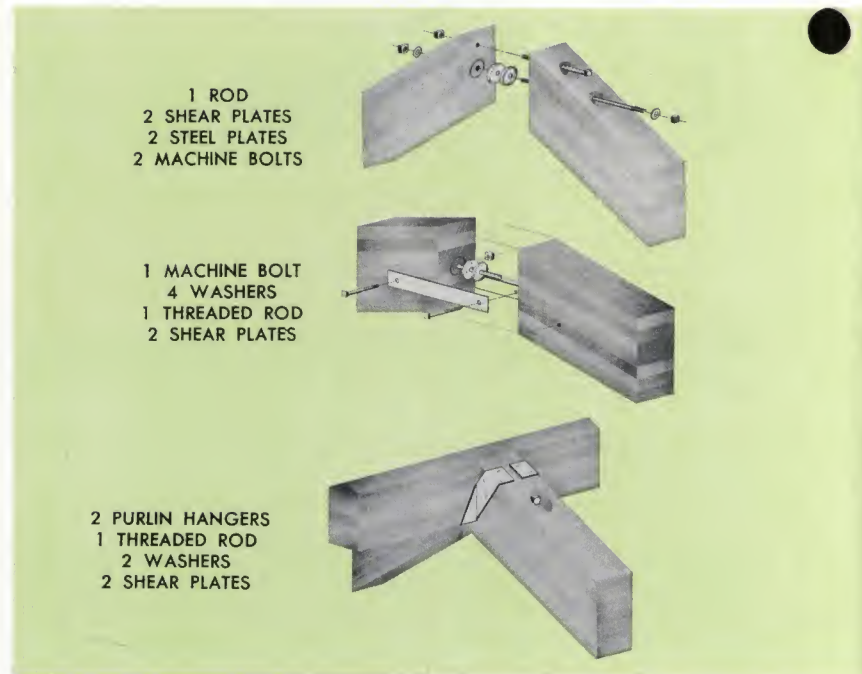
DESIGN CRITERIA:

1. Uniform Load
2. Allowable Stresses
Compression 1900 P. S. I.
Bending 2400 P. S. I.
Reduction for Curvature 9%
Increasing for Duration 15%
3. Wall Legs of Arches Are Laterally Supported
4. Laminations $\frac{3}{4}$ " Finish Thickness
5. Standard Radius 9'-4"
6. Designed for live load and dead load only—wind or special loadings will increase section sizes shown.

60'				70'				80'				90'				100'				WALL HT.	SPAN	SLOPE
W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.				W=LOAD # / LIN. FT.						
400	600	800	1000	400	600	800	1000	400	600	800	1000	400	600	800	1000	400	600	800	1000			
7 x 20½	7 x 24½	7 x 27½	9 x 27½	7 x 23½	7 x 27½	9 x 28½	9 x 31½	7 x 26½	9 x 27½	9 x 32½	9 x 35½	7 x 28½	9 x 30½	9 x 35½	11x36	9 x 27	9 x 33½	11x35½	11x39	20		3
7 x 19½	7 x 24	7 x 27½	9 x 27	7 x 22½	7 x 27	9 x 27½	9 x 30½	7 x 25½	9 x 27	9 x 31½	9 x 34½	7 x 27½	9 x 30	9 x 34½	11x34½	9 x 27	9 x 33	11x33½	11x37½	18		
7 x 18½	7 x 23½	7 x 26½	9 x 26½	7 x 21½	7 x 26½	9 x 27	9 x 30	7 x 24½	9 x 26½	9 x 30	9x 33½	7 x 27	9 x 29½	9 x 33½	11x33½	9 x 26½	9 x 31½	9x36	11x36	16		
5½x21	7 x 21½	7 x 25½	7 x 28½	7 x 21	7 x 25½	9 x 25½	9 x 28½	7 x 23½	9 x 24½	9 x 28½	9 x 32½	7 x 25½	9 x 27½	9 x 31½	9x35½	9 x 24½	9 x 30	9x34½	11x35½	14		
5½x19½	7 x 21	7 x 24	7 x 26½	7 x 19½	7 x 24	7 x 27½	9 x 27	7 x 22½	7 x 27	9 x 27	—	7 x 24	9 x 26½	—	—	7 x 26½	9 x 28½	—	—	12		4
5½x18	7 x 19½	—	—	5½x21	7 x 22½	—	—	7 x 20½	—	—	—	7 x 22½	—	—	—	—	—	—	—	10		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8		
7 x 19½	7 x 24	7 x 28½	9 x 27	7 x 22½	7 x 27½	9 x 27½	9 x 30½	7 x 24½	9 x 27	9 x 30½	9 x 33½	7 x 27	9 x 29½	9 x 33½	11x33½	9 x 26½	9 x 31½	9x36	11x36½	20		6
7 x 18½	7 x 23½	7 x 27	9 x 26½	7 x 21½	7 x 26½	9 x 27	9 x 30	7 x 24	9 x 26½	9 x 30	9 x 33	7 x 26½	9 x 28½	9 x 33	9x36	9 x 25½	9 x 30½	9x36	11x36	18		
7 x 18	7 x 22½	7 x 25½	7 x 28½	7 x 21	7 x 25½	9 x 25½	9 x 28½	7 x 23½	7 x 28½	9 x 28½	9 x 32½	7 x 25½	9 x 27½	9 x 31½	9x35½	7 x 24½	9 x 30	9x34½	11x34½	16		
5½x20½	7 x 21½	7 x 24½	7 x 27	7 x 20½	7 x 24	7 x 27½	9 x 27½	7 x 22½	7 x 27	9 x 27½	9 x 30½	7 x 24½	9 x 26½	9 x 30	9x33½	7 x 26½	9 x 28½	9x33	9x36	14		
5½x18½	7 x 20½	7 x 22½	7 x 25½	7 x 18½	7 x 22½	7 x 26½	9 x 25½	7 x 21	7 x 25½	9 x 25½	9 x 28½	7 x 23½	7 x 27½	9 x 28½	—	7 x 24½	9 x 27	9x30½	—	12		8
5½x17½	5½x21	7 x 21	—	5½x20½	7 x 21	—	—	7 x 19½	7 x 23½	—	—	7 x 21	—	—	—	7 x 22½	—	—	—	10		
5½x15½	—	—	—	5½x18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8		
5½x21	7 x 22½	7 x 25½	7 x 28½	7 x 21	7 x 25½	9 x 25½	9 x 28½	7 x 23½	7 x 28½	9 x 28½	9 x 32½	7 x 25½	9 x 27½	9 x 31½	9x35½	7 x 27½	9 x 30	9x33½	11x34½	20		10
5½x21	7 x 21½	7 x 24½	7 x 27½	7 x 20½	7 x 24½	7 x 28½	9 x 27½	7 x 23½	7 x 27½	9 x 27½	9 x 30½	7 x 24½	9 x 27	9 x 30½	9x33½	7 x 27	9 x 29½	9x33	11x33	18		
5½x20½	7 x 21	7 x 24	7 x 27	7 x 19½	7 x 24	7 x 27	9 x 27	7 x 21½	7 x 26½	9 x 27	9 x 30	7 x 23½	7 x 28½	9 x 29½	9x32½	7 x 25½	9 x 27½	9x31½	9x35½	16		
5½x18½	7 x 20½	7 x 23½	7 x 25½	7 x 18½	7 x 22½	7 x 26½	7 x 28½	7 x 20½	7 x 24½	7 x 28½	9 x 28½	7 x 22½	7 x 27	9 x 27½	9x30½	7 x 24	9 x 26½	9x30	9x33	14		
5½x18	7 x 18½	7 x 21½	7 x 24	5½x20½	7 x 21	7 x 24	7 x 27	7 x 19½	7 x 23½	7 x 27	9 x 26½	7 x 21	7 x 25½	9 x 25½	9x28½	7 x 22½	7 x 27	9x27½	9x30½	12		12
5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18½	7 x 19½	7 x 22½	—	5½x20½	7 x 21½	7 x 24½	—	7 x 18½	7 x 23½	—	—	7 x 20½	7 x 24½	—	—	10		
5½x14½	—	—	—	5½x16½	—	—	—	5½x18	—	—	—	—	—	—	—	—	—	—	—	8		
5½x20½	7 x 21½	7 x 24½	7 x 27½	7 x 20½	7 x 24½	7 x 27½	9 x 27½	7 x 22½	7 x 27	9 x 27	9 x 30	7 x 24	9 x 25½	9 x 30	9x33	7 x 25½	9 x 27½	9x31½	9x35½	20		14
5½x19½	7 x 21	7 x 24	7 x 27	7 x 19½	7 x 23½	7 x 27	9 x 26½	7 x 21	7 x 25½	9 x 26½	9 x 29½	7 x 23½	7 x 27½	9 x 28½	9x31½	7 x 24½	9 x 27	9x30½	9x33½	18		
5½x18½	7 x 20½	7 x 23½	7 x 25½	7 x 18	7 x 22½	7 x 25½	7 x 28½	7 x 20½	7 x 24	7 x 28½	9 x 28½	7 x 21½	7 x 27	9 x 27	9x30	7 x 24	7 x 28½	9x29½	9x32½	16		
5½x18	7 x 18½	7 x 21½	7 x 24	5½x20½	7 x 21	7 x 24½	7 x 27	7 x 19½	7 x 23½	7 x 27	9 x 26½	7 x 21	7 x 25½	7 x 28½	9x28½	7 x 22½	7 x 27	9x27½	9x30½	14		
5½x17½	5½x21	7 x 21	7 x 23½	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x21	7 x 21½	7 x 24½	7 x 27½	7 x 19½	7 x 24	7 x 27	9x27	7 x 21	7 x 25½	9x25½	9x28½	12		16
5½x15½	5½x18½	7 x 18½	7 x 21	5½x17½	5½x21	7 x 21	7 x 23½	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x20½	7 x 21½	7 x 24½	—	7 x 18½	7 x 23½	7x26½	—	10		
5½x13½	5½x16½	—	—	5½x15	5½x18½	—	—	5½x16½	—	—	—	5½x18	7 x 18½	—	—	5½x18½	7 x 20½	—	—	8		
5½x19½	7 x 21	7 x 24	7 x 26½	7 x 18½	7 x 23½	7 x 26½	9 x 26½	7 x 21	7 x 25½	9 x 25½	9 x 28½	7 x 22½	7 x 27½	9 x 27½	9x30½	7 x 24	9 x 26½	9x30	9x33	20		18
5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x21	7 x 22½	7 x 25½	7 x 28½	7 x 20½	7 x 24½	7 x 27½	9 x 27½	7 x 21½	7 x 26½	9 x 27	9x30	7 x 23½	7 x 28½	9x28½	9x32½	18		
5½x18	7 x 18½	7 x 21½	7 x 24	5½x20½	7 x 21	7 x 24	7 x 27	7 x 18½	7 x 23½	7 x 27	9 x 26½	7 x 21	7 x 25½	9 x 25½	9x28½	7 x 22½	7 x 27	9x27½	9x30½	16		
5½x17½	5½x21	7 x 21	7 x 23½	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x21	7 x 21½	7 x 25½	7 x 27½	7 x 19½	7 x 24	7 x 27	9x27	7 x 21	7 x 25½	9x25½	9x28½	14		
5½x15½	5½x19½	7 x 19½	7 x 21½	5½x18½	7 x 18½	7 x 21½	7 x 24	5½x19½	7 x 20½	7 x 23½	7 x 26½	5½x21	7 x 21½	7 x 25½	7x28½	7 x 19½	7 x 23½	7x27	9x26½	12		10
5½x14½	5½x18	5½x20½	7 x 19½	5½x16½	5½x19½	7 x 19½	7 x 21½	5½x18	7 x 18½	7 x 21½	7 x 24	5½x18½	7 x 20½	7 x 23½	7x25½	5½x20½	7 x 21½	7x24½	7x27½	10		
5½x12½	5½x15½	5½x18	5½x20½	5½x14½	5½x17½	5½x20½	7 x 19½	5½x15½	5½x18½	7 x 18½	—	5½x16½	5½x20½	7 x 20½	—	5½x18	7 x 18½	—	—	8		
5½x18½	7 x 19½	7 x 22½	7 x 25½	5½x21	7 x 21½	7 x 25½	7 x 27½	7 x 19½	7 x 24	7 x 27½	9 x 27	7 x 21½	7 x 26½	9 x 26½	9x29½	7 x 22½	7 x 27½	9x27	9x31½	20		12
5½x18	7 x 18½	7 x 21½	7 x 24	5½x19½	7 x 21	7 x 24	7 x 27	7 x 18½	7 x 23½	7 x 26½	9 x 26½	7 x 20½	7 x 24½	7 x 28½	9x28½	7 x 21½	7 x 27	9x27	9x30	18		
5½x17½	5½x21	7 x 21	7 x 23½	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x21	7 x 21½	7 x 24½	7 x 27½	7 x 19½	7 x 24	7 x 27	9x27	7 x 21	7 x 25½	9x25½	9x28½	16		
5½x16½	5½x19½	7 x 19½	7 x 21½	5½x18	7 x 19½	7 x 21½	7 x 24	5½x19½	7 x 21	7 x 24	7 x 26½	5½x21	7 x 22½	7 x 25½	7x28½	7 x 19½	7 x 24	7x27½	9x27	14		
5½x15	5½x18½	5½x21	7 x 20½	5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18½	7 x 19½	7 x 22½	7 x 24½	5½x19½	7 x 21	7 x 24	7x27	5½x21	7 x 22½	7x25½	7x28½	12		14
5½x13½	5½x16½	5½x19½	7 x 18½	5½x15	5½x18½	7 x 18½	7 x 21	5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18	7 x 18½	7 x 21½	7x24	5½x19½	7 x 20½	7x23½	7x26½	10		
5½x12½	5½x15	5½x17½	5½x19½	5½x13½	5½x16½	5½x19½	—	5½x15	5½x18	5½x21	7 x 20½	5½x15½	5½x19½	7 x 18½	—	5½x17½	5½x21	7x21	—	8		
5½x17½	5½x21	7 x 21	7 x 23½	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x21	7 x 21½	7 x 25½	7 x 27½	7 x 19½	7 x 24	7 x 27	9x27	7 x 21	7 x 25½	9x25½	9x28½	20		16
5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18	7 x 19½	7 x 22½	7 x 24½	5½x20½	7 x 21	7 x 24	7 x 27	7 x 18½	7 x 22½	7 x 26½	9x25½	7 x 20½	7 x 24	7x27½	9x27	18		
5½x15½	5½x19½	7 x 19½	7 x 21½	5½x17½	5½x21	7 x 21	7 x 24	5½x18½	7 x 20½	7 x 23½	7 x 25½	5½x20½	7 x 21½	7 x 24½	7x27½	7 x 18½	7 x 23½	7x26½	9x26½	16		
5½x15	5½x18	5½x21	7 x 20½	5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18	7 x 18½	7 x 21½	7 x 24	5½x19½	7 x 20½	7 x 23½	7x26½	5½x20½	7 x 21½	7x24½	7x27½	14		
5½x14½	5½x17½	5½x19½	7 x 18½	5½x15½	5½x18½	7 x 18½	7 x 21	5½x16½	5½x20½	7 x 20½	7 x 22½	5½x18	7 x 18½	7 x 21½	7x24	5½x18½	7 x 20½	7x23½	7x25½	12		18

tangent arches

details



radial arches

Gymnasiums, auditoriums, supermarkets, field houses, hangars and similar clear span structures are economically constructed with efficient Rilco Radial Arches. They are uniform in curvature with the rise equal to approximately one-fourth the span. Reinforced concrete buttresses are used to absorb the arch reactions. The vertical reaction is determined by multiplying the load per lineal foot by one-half the span. The horizontal reaction is equal to the vertical reaction.



South Mountain Arena, West Orange, N. J. Radial arches 140' in span are spaced 20'2" o.c. Architect: E. Nelson Edwards, AIA, Philadelphia.

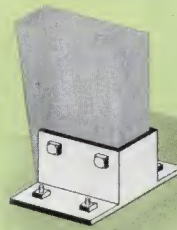


Siegel's Market, Richmond, Va. Arches are 90' and 120' in span. Rilco Deck of 4" Western Red Cedar spans the 16' spacing of the arches. Architect: J. Henly Walker, Jr., AIA.

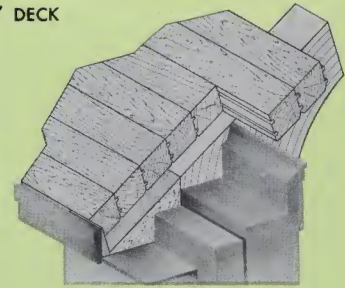
HORIZONTAL THRUST IS
ABSORBED BY STEEL BEAM.



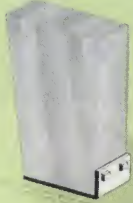
HORIZONTAL THRUST IS
ABSORBED BY FLOOR SLAB.



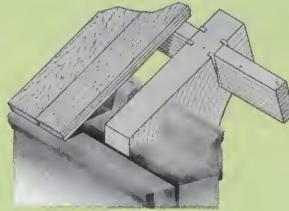
4" DECK



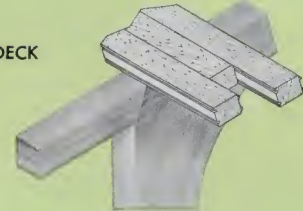
HORIZONTAL THRUST IS
ABSORBED BY TIE ROD.



PURLINS AND 2" DECK



4" DECK



sections

L= SPAN	APPROX. CENTER HT.	OUTSIDE RADIUS	W=TOTAL LOAD—POUNDS PER LINEAL FOOT			
			320	480	640	800
40'-0"	10'-0"	25'-0"	3¼" x 6¾"	3¼" x 9¾"	3¼" x 12"	3¼" x 12"
50'-0"	12'-6"	31'-3"	3¼" x 9¾"	3¼" x 12"	3¼" x 13½"	3¼" x 13½"
60'-0"	15'-0"	37'-6"	3¼" x 11¾"	3¼" x 13"	3¼" x 16¼"	3¼" x 16¼"
70'-0"	17'-6"	43'-9"	3¼" x 13"	3¼" x 14½"	3¼" x 17⅞"	5¼" x 16¼"
80'-0"	20'-0"	50'-0"	3¼" x 14⅞"	3¼" x 17⅞"	5¼" x 16¼"	5¼" x 17⅞"
90'-0"	22'-6"	56'-3"	5¼" x 14⅞"	5¼" x 16¼"	5¼" x 17⅞"	5¼" x 19½"
100'-0"	25'-0"	62'-6"	5¼" x 16¼"	5¼" x 17⅞"	5¼" x 19½"	5¼" x 21⅞"
110'-0"	27'-6"	68'-9"	5¼" x 16¼"	5¼" x 17⅞"	5¼" x 21⅞"	5¼" x 24⅜"
120'-0"	30'-0"	75'-0"	5¼" x 17⅞"	5¼" x 19½"	5¼" x 22¾"	5¼" x 26"

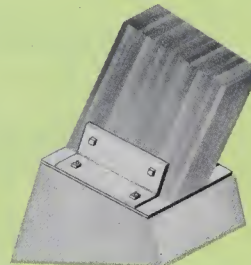
Vertical = WL
Reaction = 2

Approx.
Horizontal = WL
Reaction = 2

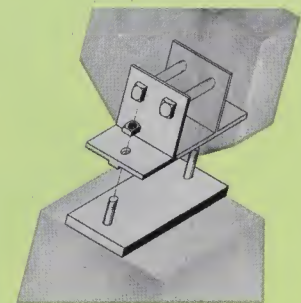
details



CROWN DETAIL



ANCHOR DETAIL
FOR SPANS UP TO 80'



ANCHOR DETAIL
FOR SPANS OVER 80'



CHURCHES

laminated beam systems

Rilco laminated beams are available in sizes difficult or impossible to obtain in solid timber . . . flat, pitched or tapered with or without cantilevered overhang. The rich beauty of wood blends with virtually any architectural style . . . provides wide latitude of expression. Because of their dimensional stability, laminated beams resist warping and splitting.

Laminated beams are usually spaced 6 to 20 feet o.c. Rilco deck, or purlins and sheathing complete the roof system.

Beams can be left a natural finish or stained to achieve a pleasing color harmony with the other decor.

Lumber used in laminated purlins is the same quality kiln-dried material as that in Rilco arches and beams. This assures a uniform appearance of all exposed structural members which contributes to the beauty of the interior.

Connection hardware for fastening purlins to arches or beams is usually supplied by Rilco. The architect may specify the type of connection desired.



St. Peter's Catholic Church, Douglas, Mich. Curved beam is $3\frac{1}{2}'' \times 18'' \times 29\frac{5}{8}''$. Flat beams in nave are $5\frac{1}{4}'' \times 27\frac{3}{8}''$ tapered to $5\frac{1}{4}'' \times 13''$. Architect: Harford Field & Assoc.



St. Mary's Church, Sioux Falls, So. Dak. Pitched beams are $7'' \times 27\frac{3}{4}''$ in section and span $47'2''$. Architects: Harold Spitznagel & Assoc., Sioux Falls.

types

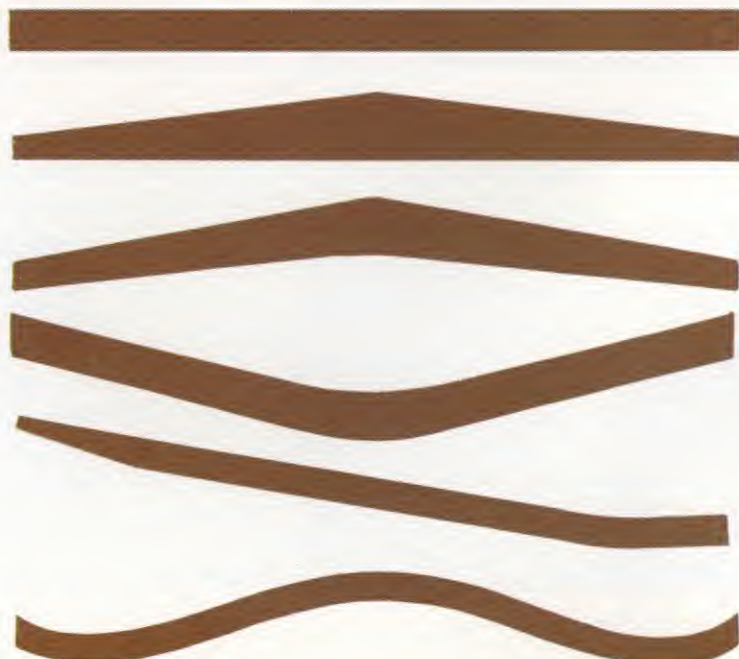
Flat beams can be fabricated with camber to compensate for deflection.

Tapered beam with built up peak to facilitate roof drainage.

Pitched beams available up to a 3 to 12 pitch.

Dihedral beam.

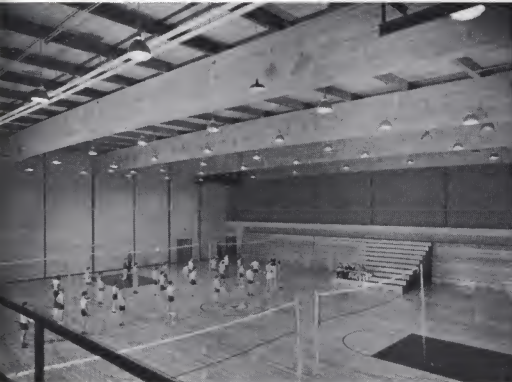
Special beams.



SCHOOLS

COMMERCIAL

RESIDENTIAL



Astoria High School, Astoria, Oregon. Beams are 107" in span and 12 1/2" x 56 7/8" in section. Architects: E. E. Isaacson, Stewart & Richardson, Portland, Oregon.



Oswego Shopping Center, Oswego, Oregon. Constructed with 212 beams and columns. Architects: Williams & Martin, Portland, Ore.



Shebley Residence, Cincinnati, Ohio. Glued laminated wood roof and floor beams spaced 8' o.c. were used throughout home.



Grade School, Clive, Iowa. Rilco laminated beams 7" x 18" span 31' 5 3/8". Architects: Smith-Voorhees-Jensen, Des Moines, Iowa.



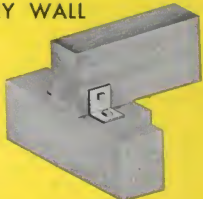
Westinghouse Electric Building, San Lorenzo, California. Rilco beams of various dimensions in lengths up to 64' span both office and display room areas.



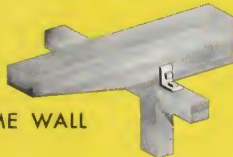
Research House, Flintridge, California. Constructed with dihedral beams and laminated columns. Architect: John C. Lindsay, AIA, Los Angeles.

details

MASONRY WALL



FRAME WALL



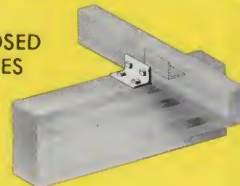
PURLINS WITH HANGERS



LAMINATED COLUMN



PURLINS SUPERIMPOSED WITH CLIP ANGLES



LAMINATED COLUMN



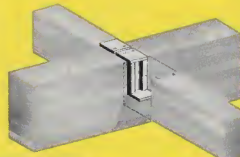
STEEL COLUMN



RIDGE BEAM



PURLINS WITH CONCEALED CONNECTIONS



typical glued laminated beam and purlin sizes*

SPAN	SPCG.	TOTAL LOAD (LIVE AND DEAD)					
		30 P.S.F.	35 P.S.F.	40 P.S.F.	45 P.S.F.	50 P.S.F.	55 P.S.F.
12'	6'	3¼" x 6½"	3¼" x 6½"	3¼" x 6½"	3¼" x 8½"	3¼" x 8½"	3¼" x 8½"
	8'	3¼" x 8½"	3¼" x 8½"	3¼" x 8½"	3¼" x 8½"	3¼" x 8½"	3¼" x 9¾"
	12'	3¼" x 8½"	3¼" x 8½"	3¼" x 9¾"	3¼" x 9¾"	3¼" x 11¾"	3¼" x 11¾"
	16'	3¼" x 9¾"	3¼" x 9¾"	3¼" x 11¾"	3¼" x 13"	3¼" x 14½"	3¼" x 14½"
16'	6'	3¼" x 8½"	3¼" x 9¾"	3¼" x 9¾"	3¼" x 9¾"	3¼" x 9¾"	3¼" x 9¾"
	8'	3¼" x 9¾"	3¼" x 9¾"	3¼" x 9¾"	3¼" x 11¾"	3¼" x 11¾"	3¼" x 11¾"
	12'	3¼" x 11¾"	3¼" x 11¾"	3¼" x 13"	3¼" x 13"	3¼" x 14½"	5¼" x 11¾"
	16'	3¼" x 13"	3¼" x 13"	5¼" x 11¾"	5¼" x 11¾"	5¼" x 13"	5¼" x 13"
20'	8'	3¼" x 11¾"	3¼" x 11¾"	5¼" x 11¾"	5¼" x 11¾"	5¼" x 11¾"	5¼" x 11¾"
	12'	3¼" x 13"	3¼" x 14½"	5¼" x 13"	5¼" x 13"	5¼" x 13"	5¼" x 14½"
	16'	3¼" x 14½"	5¼" x 13"	5¼" x 14½"	5¼" x 14½"	5¼" x 16¼"	5¼" x 16¼"
	18'	5¼" x 13"	5¼" x 14½"	5¼" x 14½"	5¼" x 16¼"	5¼" x 16¼"	5¼" x 17½"
24'	8'	3¼" x 14½"	3¼" x 14½"	3¼" x 14½"	5¼" x 13"	5¼" x 14½"	5¼" x 14½"
	12'	3¼" x 16¼"	5¼" x 13"	5¼" x 14½"	5¼" x 14½"	5¼" x 16¼"	5¼" x 16¼"
	16'	5¼" x 14½"	5¼" x 16¼"	5¼" x 16¼"	5¼" x 17½"	5¼" x 17½"	5¼" x 19½"
	18'	5¼" x 16¼"	5¼" x 16¼"	5¼" x 17½"	5¼" x 19½"	5¼" x 19½"	5¼" x 21½"
28'	8'	3¼" x 16¼"	3¼" x 16¼"	5¼" x 14½"	5¼" x 16¼"	5¼" x 16¼"	5¼" x 16¼"
	12'	5¼" x 16¼"	5¼" x 16¼"	5¼" x 17½"	5¼" x 17½"	5¼" x 17½"	5¼" x 19½"
	16'	5¼" x 17½"	5¼" x 17½"	5¼" x 19½"	5¼" x 21½"	5¼" x 21½"	5¼" x 22¾"
	18'	5¼" x 17½"	5¼" x 19½"	5¼" x 21½"	5¼" x 19½"	5¼" x 22¾"	5¼" x 24¾"
32'	8'	5¼" x 16¼"	5¼" x 16¼"	5¼" x 17½"	5¼" x 17½"	5¼" x 17½"	5¼" x 19½"
	12'	5¼" x 17½"	5¼" x 19½"	5¼" x 19½"	5¼" x 19½"	5¼" x 21½"	5¼" x 22¾"
	16'	5¼" x 19½"	5¼" x 21½"	5¼" x 22¾"	5¼" x 22¾"	5¼" x 24¾"	5¼" x 26"
	18'	5¼" x 19½"	5¼" x 21½"	5¼" x 22¾"	5¼" x 24¾"	7" x 22¾"	7" x 24¾"
40'	8'	5¼" x 19½"	5¼" x 21½"	5¼" x 21½"	5¼" x 22¾"	5¼" x 22¾"	5¼" x 24¾"
	12'	5¼" x 22¾"	5¼" x 22¾"	5¼" x 24¾"	5¼" x 24¾"	5¼" x 26"	7" x 24¾"
	16'	5¼" x 24¾"	5¼" x 26"	7" x 24¾"	7" x 24¾"	7" x 26"	7" x 27½"
	18'	5¼" x 24¾"	7" x 24¾"	7" x 24¾"	7" x 26"	7" x 27½"	7" x 29¼"
50'	12'	7" x 24¾"	7" x 26"	7" x 27½"	7" x 27½"	7" x 29¼"	7" x 30¾"
	16'	7" x 27½"	7" x 29¼"	7" x 30¾"	7" x 30¾"	7" x 32½"	9" x 30¾"
	18'	7" x 29¼"	7" x 29¼"	7" x 30¾"	7" x 32½"	9" x 30¾"	9" x 32½"
	20'	7" x 29¼"	7" x 30¾"	7" x 32½"	9" x 30¾"	9" x 32½"	9" x 34½"
60'	12'	7" x 29¼"	7" x 30¾"	9" x 30¾"	9" x 30¾"	9" x 32½"	9" x 34½"
	16'	9" x 30¾"	9" x 32½"	9" x 32½"	9" x 34½"	9" x 35¾"	9" x 37½"
	18'	9" x 29¾"	9" x 32½"	9" x 34½"	9" x 35¾"	9" x 37¾"	9" x 39"
	20'	9" x 32½"	9" x 34½"	9" x 35¾"	9" x 37¾"	9" x 39"	9" x 40½"

*This table of typical sizes is based on the following criteria.

1. For vertically oriented purlins only—for purlins normal to sloping roof lateral deflection must be considered.
2. The loading shown is total load of which 15 p.s.f. is assumed to be dead load.
3. Maximum bending stress is 2200 p.s.i. + 15% increase for short time loading.
4. Deflection limit is 1/240 of span for live load only or 1/180 of span for total load, whichever governs. This meets the A.I.T.C. deflection criteria for "Commercial and Institutional—Without Plaster Ceiling" use.

SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED LUMBER

General:

All glued laminated wood structural members as shown on the plans and specified herein shall be furnished by Rilco Laminated Products.

Manufacture:

Manufacture of structural glued laminated members shall be according to the fabrication requirements of the current A.I.T.C. Timber Construction Standards and to the current W.C.L.A. glued laminated standards.

Lumber:

Lumber shall be Douglas Fir which meets the structural requirements and laminating specifications of the species. Lumber used shall be of stress grade to provide laminated members with normal working stress values of _____psi in bending and tension and _____psi compression parallel to grain for
_____ DRY conditions of use or
_____ WET conditions of use.

Adhesives:

Adhesives shall meet the requirements of the glued laminated lumber standards and shall be
_____ WATER RESISTANT (Interior) or
_____ WATER PROOF (Exterior).

Appearance Grades:

Appearance of members shall be as defined in A.I.T.C. Timber Construction Standards and shall be
_____ INDUSTRIAL APPEARANCE
GRADE or
_____ ARCHITECTURAL APPEARANCE
GRADE or
_____ PREMIUM APPEARANCE GRADE.

Protection:

A coat of end sealer shall be applied to the ends of all members as soon as practicable after end trimming in accordance with A.I.T.C. Protection Standards. Surfaces of members shall be
_____ NOT SEALED or
_____ SEALED WITH PENETRATING
SEALER in accordance with A.I.T.C.
Protection Standards, or
_____ SEALED WITH SEALER COAT in
accordance with A.I.T.C. Protec-
tion Standards.

Members shall be
_____ NOT WRAPPED or
_____ INDIVIDUALLY WRAPPED in ac-
cordance with A.I.T.C. Protection
Standards, or
_____ BUNDLE WRAPPED in accordance
with A.I.T.C. Protection Standards.

Shop Drawings:

Shop Drawings shall be furnished by the fabricator and approval obtained from the buyer before work is commenced. Shop drawings shall conform to the current A.I.T.C. Timber Construction Standards.

A.I.T.C. STANDARD APPEARANCE GRADES

Industrial—For construction in industrial plants, warehouses, garages, and for other uses where appearance is not of primary concern.

Specifications:

- a—Laminations may contain the natural growth characteristics of the lumber grade.
- b—Inserts or wood fillers are not required.
- c—The wide face of laminations exposed to view shall be free of loose knots and open knot holes.
- d—Members shall be surfaced two sides only permitting an occasional miss along individual laminations.
- e—Unless otherwise specified, the appearance grade for glued laminated lumber truss members shall be industrial or better, except that paragraph c does not apply.

Architectural—For construction where appearance is an important requirement, any small voids shall be filled by others than the fabricator if the final decorative finish so requires.

Specifications:

- a—Laminations may contain the natural growth characteristics of the lumber grade.
- b—In exposed surfaces, voids which cannot be properly filled shall be replaced by the fabricator with clear wood inserts, this includes knot holes and loose knots in excess of $\frac{3}{4}$ " in diameter. At time of placement, insert shall be selected with reasonable care to match grain and color. Filling of any remaining voids, if required, shall be left to other trades.
- c—The wide face of laminations exposed to view shall be free of loose knots and open knot holes. The material shall be selected with reasonable care to match color and grain at scarf and edge joints.
- d—Exposed faces shall be surfaced. Misses are not permitted.

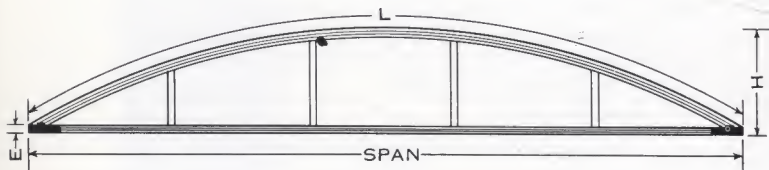
Premium—For uses which require the finest appearance.

Specifications:

- a—Laminations may contain the natural growth characteristics of the lumber grade.
- b—In exposed surfaces, voids which cannot be properly filled shall be replaced with clear wood inserts. This includes knot holes and loose knots in excess of $\frac{3}{4}$ " in diameter. Voids $\frac{3}{4}$ " in diameter and under shall have wood inserts or wood filler. At time of placement, insert shall be selected with special care to match grain and color. All such work shall be done by the fabricator.
- c—The wide face of laminations exposed to view shall be clear grade "C" or better as per regional lumber association grading rules and selected with reasonable care to match color and grain at scarf and edge joints.
- d—Exposed faces shall be surfaced smooth.

tied arches

Type 70 tied arches, available in spans of 20 feet to 100 feet and over, are spaced two feet on centers. The arches are light in weight, simplifying erection without need of specialized labor or special equipment. Rilco tied arches provide a complete structural framing system for roof and ceiling. Wide, clear span, post-free Rilco buildings provide space versatility that facilitates changes in floor layouts and conversion to new uses. This important feature of flexible space is ideal for stores, bowling alleys, skating rinks, recreation centers, warehouses and industrial buildings.



66 tied arches were assembled and erected by 3 man crew in 85 total man hours on 46' x 130' I. G. A. Foodliner, Weatherford, Okla.



A & P Supermarket, Williamsport, Pennsylvania. Span is 71'4". Contractor: Geo. H. Roller Co., Williamsport, Pennsylvania.

tables

DIMENSIONS

*SPAN & RAD.	TYPE CC 70 30 lbs./sq. ft. live load			TYPE BC 70 25 lbs./sq. ft. live load			TYPE AC 70 20 lbs./sq. ft. live load		
	H	E	L	H	E	L	H	E	L
40'	5' 7"	2 $\frac{3}{4}$ "	42'1 $\frac{1}{8}$ "	5' 7"	2 $\frac{3}{4}$ "	42'1 $\frac{1}{8}$ "	5' 6 $\frac{3}{4}$ "	2 $\frac{1}{2}$ "	42'0 $\frac{7}{8}$ "
50'	6'11 $\frac{7}{8}$ "	3 $\frac{9}{16}$ "	52'7 $\frac{5}{8}$ "	6'11 $\frac{1}{16}$ "	2 $\frac{3}{4}$ "	52'6 $\frac{1}{16}$ "	6'11 $\frac{1}{16}$ "	2 $\frac{3}{4}$ "	52'6 $\frac{1}{16}$ "
60'	8' 4 $\frac{7}{8}$ "	4 $\frac{1}{2}$ "	63'2 $\frac{3}{16}$ "	8' 3 $\frac{1}{16}$ "	3 $\frac{9}{16}$ "	63'1 $\frac{1}{4}$ "	8' 3 $\frac{1}{16}$ "	3 $\frac{9}{16}$ "	63'1 $\frac{1}{4}$ "
70'	9' 8 $\frac{7}{8}$ "	4 $\frac{7}{16}$ "	73'7 $\frac{1}{16}$ "	9' 9 $\frac{1}{16}$ "	5 $\frac{1}{2}$ "	73'8 $\frac{7}{8}$ "	9' 8 $\frac{7}{8}$ "	4 $\frac{7}{16}$ "	73'7 $\frac{1}{16}$ "
80'	11' 2 $\frac{1}{16}$ "	5 $\frac{1}{2}$ "	84'2 $\frac{1}{16}$ "	11' 1 $\frac{1}{16}$ "	5 $\frac{3}{8}$ "	84'2 $\frac{1}{16}$ "	11' 1"	4 $\frac{7}{16}$ "	84'1 $\frac{1}{2}$ "

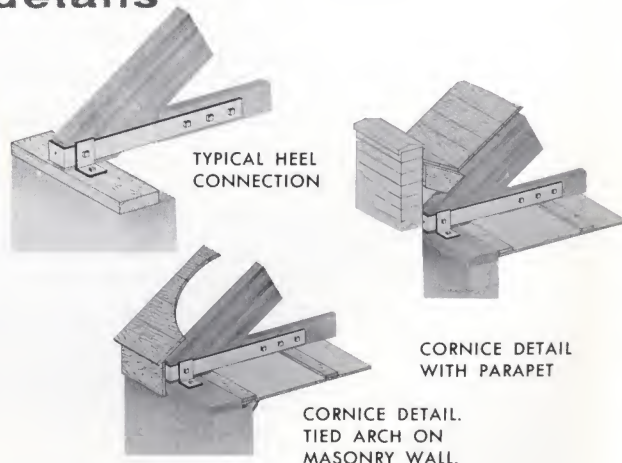
*Standard Tied Arches are available in span intervals of 2'

description

Arch spacing of two feet on centers permits nominal one-inch sheathing to be nailed directly to the top edges of the arches, and ceiling can be applied to tie members. Top arch chord and tie members are glued laminated of kiln-dried material. Pre-cut 1 x 4 vertical hangers and all necessary connection hardware are furnished. Radius is approximately equal to span. All members are accurately pre-cut,

drilled for bolts. Pieces are marked to correspond with assembly instructions. Designed for a dead loads of 10#/sq. ft., a ceiling load of 5#/sq. ft., and live loads of 20#/sq. ft., 25#/sq. ft., 30#/sq. ft. and 40#/sq. ft. as applicable. For protection, all parts are flow coated with a wood sealer. Production is constantly checked as the arches are manufactured to rigid specifications to assure quality and dependability.

details





Forbes Lumber Co. Storage Building, Cheswick, Pennsylvania. Trusses are 80' in span and spaced 20' o.c.



School gymnasium, Eagle Grove, Iowa. Span is 87'. Architects: Smith-Voorhees-Jensen, Des Moines, Iowa.

bowstring truss systems

Rilco trusses are designed for symmetrical and unsymmetrical loading conditions. Where ceilings are intended or concentrated loads such as hoists or cranes, the trusses are designed to meet individual requirements. Center height is approximately one seventh the span and top chord length is approximately $1.047 \times \text{span}$. The glued laminated upper and lower chords and the solid timber webs are in the same plane. Radius is approximately equal to span. Amount of bottom chord camber is approximately one quarter inch per ten ft. of span.



Lateral bracing between trusses can also be supplied by Rilco

tables

Dimensions are based on typical truss design for 40 lbs. per sq. ft. total load and 20'-0" spacing. (800 lbs. per lineal ft.) Individual designs may vary.

SPAN	HEIGHT OF TRUSS*	LENGTH OF ARC	WIDTH OF HEEL	LENGTH OF BASE PLATE
40'-0"	5'-9 $\frac{3}{8}$ "	41'-10 $\frac{1}{16}$ "	4"	4"
50'-0"	7'-2 $\frac{1}{2}$ "	52'-4 $\frac{5}{16}$ "	4"	4 $\frac{1}{2}$ "
60'-0"	8'-7 $\frac{1}{16}$ "	62'-10"	4"	5 $\frac{1}{2}$ "
70'-0"	10'-1 $\frac{1}{2}$ "	73'-3 $\frac{5}{8}$ "	4"	6"
80'-0"	11'-2 $\frac{3}{4}$ "	83'-9 $\frac{3}{16}$ "	6 $\frac{1}{16}$ "	5"
90'-0"	12'-8 $\frac{3}{16}$ "	94'-3"	6 $\frac{1}{16}$ "	6"
100'-0"	14'-0 $\frac{1}{4}$ "	104'-8 $\frac{5}{8}$ "	6 $\frac{1}{16}$ "	6"
110'-0"	15'-5 $\frac{1}{16}$ "	115'-2 $\frac{1}{4}$ "	6 $\frac{1}{16}$ "	6 $\frac{1}{2}$ "
120'-0"	16'-9 $\frac{7}{8}$ "	125'-8"	6 $\frac{1}{16}$ "	6 $\frac{1}{2}$ "

*Height of truss is the vertical distance from the bearing line to top of truss at mid-span.

details



specifications

General:

Trusses shall be "Rilcord" as manufactured by Rilco Laminated Products, Inc. Truss chords shall be glued laminated. Trusses shall be shop fabricated under controlled conditions.

Design:

Trusses shall be designed in accordance with provisions of the current edition of "National Design Specifications," issued by N.L.M.A., to support the following loads: Live Load _____ psf; Dead Load _____ psf; Ceiling Load _____ psf; Special Load _____ psf.

Manufacture:

Manufacture of the trusses shall be according to the fabrication requirements of the current A.I.T.C. Timber Construction Standards and to the current W.C.L.A. glued laminated standards.

Lumber:

Lumber for the glued laminated upper and lower chords shall be Douglas Fir which meets the structural require-

ments and laminating specifications of the species. Lumber for the web members shall be Douglas Fir and shall meet the grade requirements of current standard grading rules for that species.

Adhesives:

Adhesives shall meet the requirements of the glued laminated lumber standards and shall be _____ WATER RESISTANT (Interior) or _____ WATER PROOF (Exterior).

Hardware:

The fabricator shall furnish all necessary hardware and metal shapes required for assembly of the trusses except that embedded in concrete or welded to structural steel. Metal shapes to have one coat of shop applied paint.

Shop Drawings:

Shop drawings shall be furnished by the fabricator and approval obtained from the buyer before work is commenced. Shop drawings shall conform to the current A.I.T.C. Timber Construction Standards.

RILCO DECK

description

Solid timber Rilco Decking is manufactured of various species. The deck is formed by spiking together individual pieces. Pieces are milled to a tongue and grooved pattern and are predrilled for the spikes. The deck performs a multi-function by serving as sheathing, insulation and ceiling. Because it possesses structural supporting ability for relatively long spans, regular joists and purlins are eliminated.

manufacture and grading

Rilco Deck is kiln-dried to assure dimensional stability. The tongues and grooves are precision cut to provide a tight fit. The holes for horizontal nailing of 3" and 4" deck are predrilled. The lumber is carefully selected for grade and appearance by experienced graders.

insulation

Millions of air cells in Rilco Deck provide a natural insulation to restrict thermal transmission. For example, the k factor is .73 for Rilco Deck of Western Red Cedar.

Close-fitting double tongue and grooved sides interlock to reduce heat loss. The inherent insulation of nominal four inch Rilco Deck is usually sufficient to eliminate need of installation of additional insulation materials.

fire safety

Wood deck, of relatively large cross section, is slow to burn. It loses its strength only in proportion to the degree of charring under fire temperatures.

Wood exposed to standard fire temperatures chars and burns at the rate of about one inch in depth in 33 minutes. It allows time . . . very often time enough to save the structure and contents. Rilco Deck, of nominal four inch thickness qualifies as mill type construction which earns lower insurance rates.

installation

Decking is to be installed with tongues up on sloped or pitched roofs and outward in direction of laying on flat roofs. Lay with pattern faces down and exposed. Each piece should be toenailed at each support with one 40d nail and face nailed with one 6" spike. Decking is most economical when laid random, but all pieces shall extend over at least one support.

There shall be a minimum distance of 4 ft. between joints in adjacent courses. Joints in the same general lines shall be separated by at least 2 intervening courses. Courses shall be spiked to each other with 8" spikes at not to exceed 30" intervals through predrilled edge holes and with one spike at a distance not exceeding 10" from each end of each piece.

laminated decking

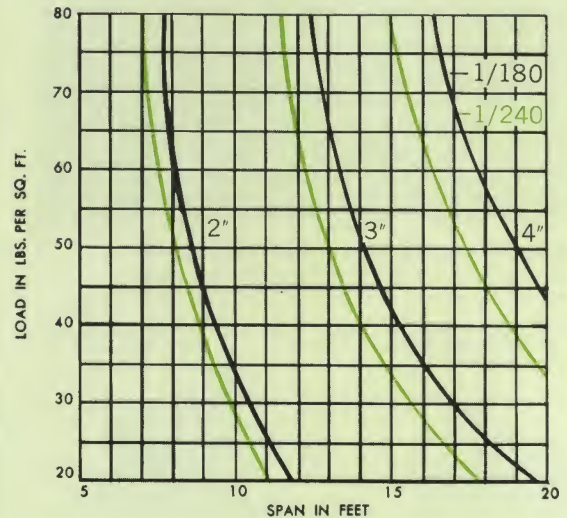
Rilco also has glued laminated wood decking available in nominal 3" and 4" thicknesses. Write the nearest Rilco office listed on the back cover for specifications, data, span tables and application information.



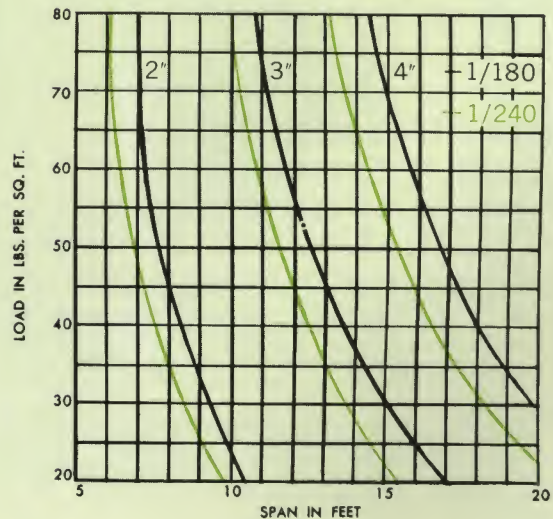
CORNICE DETAIL FOR BEAM

ALLOWABLE LOADS

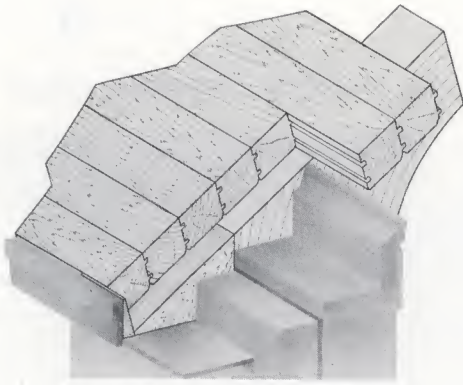
West Coast Douglas Fir



White Fir



*Random layup continuous over three or more supports



CORNICE DETAIL FOR ARCH

sizes

4 x 6, 3 x 6 and 2 x 6

specifications grade

Graded according to the rules which apply to the species with all face sides graded for appearance.

lengths

3 x 6: random lengths, 40% or more 14' or longer, not over 10% less than 10'.

4 x 6: random lengths, 25% or more 16' and longer, not less than 25% 14' to 15', not over 10% 5' to 10'.

manufacturing

Double tongue and groove, 3 x 6 and 4 x 6 predrilled for horizontal nailing. Single tongue and groove 2 x 6. Ends shall be trimmed square.

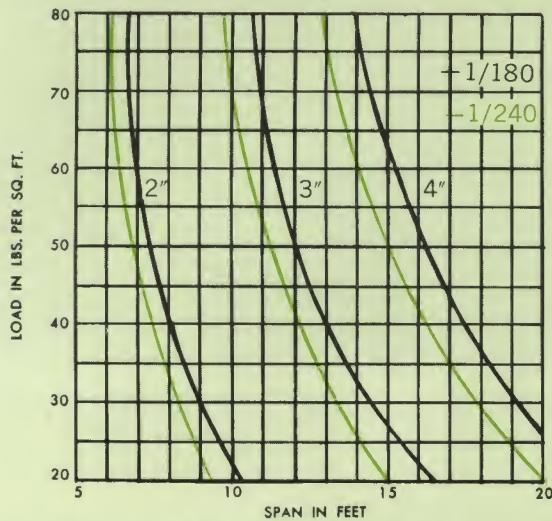
*species

Western Red Cedar
Alaska Cedar
Englemann Spruce
West Coast Douglas Fir
West Coast Hemlock
White Fir
Sitka Spruce

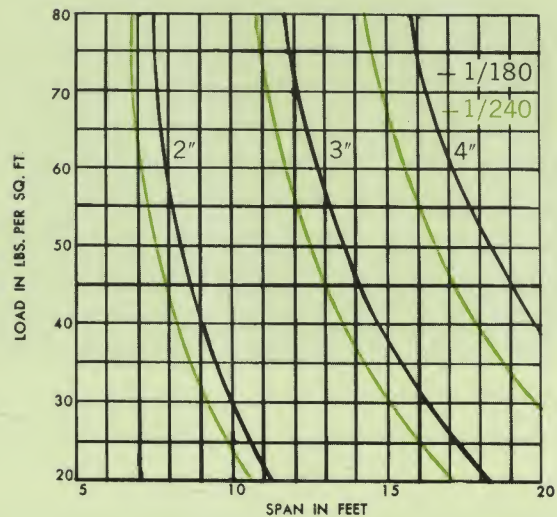
*Subject to change with availability.

AS LIMITED BY DEFLECTION* $D = \frac{Wl^3}{116 EI}$

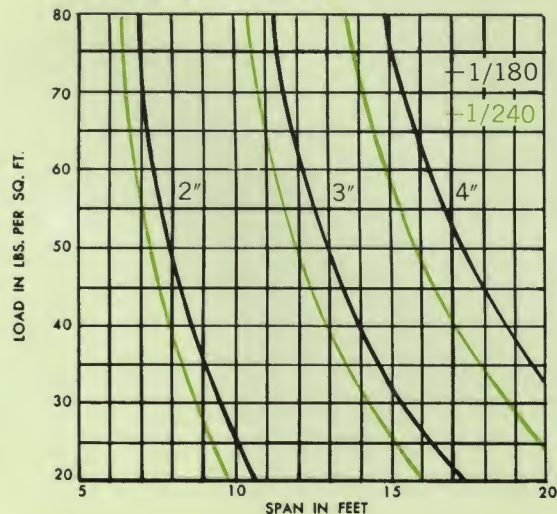
Western Cedar and Englemann Spruce



West Coast Hemlock



White Spruce, Sitka Spruce and Alaska Cedar



Thermal Conductivity (k) and Resistance (R)
of Various Thicknesses and Species of Wood Deck

Nominal Thickness		2"	3"	4"
Species	k*	R	R	R
Western Red Cedar	.73	2.226	3.595	4.794
West Coast Douglas Fir	1.04	1.562	2.524	3.365
West Coast Hemlock	1.04	1.562	2.524	3.365
Englemann Spruce	.78	2.083	3.365	4.487
Sitka Spruce	.78	2.083	3.365	4.487
White Fir	.82	1.981	3.201	4.268
Yellow Cedar	1.0	1.625	2.625	3.5

*From Wood Handbook No. 72

industrial

The low initial cost and low maintenance of Rilco structural assemblies make them ideal for industrial construction. Because of its non-corrosive qualities, wood is unaffected by chemical fumes and eliminates expensive maintenance. Members are of sufficient size to generally earn low fire insurance rates for mill type construction. When the end use of the laminated or solid members requires it, they are treated with chemical preservatives.

formwork

Rilco engineered and prefabricated roof centering and falsework saves time and reduces concrete forming costs of buildings, bridges, tunnels, aqueducts, circular walls and roofs. Laminated wood forming supports provide freedom of design and assures accuracy . . . all parts are cut to lengths and drilled and fabricated for connectors. They may be erected on jacks and rails, decentered and moved for repeated pours.

PLANTS - WAREHOUSES



Western Foundry Co., Tigard, Oregon. Beams are up to 11" x 24 $\frac{7}{8}$ " x 60'. Columns are 11" x 19 $\frac{1}{2}$ " x 30'8". Engineer and Contractor: Monson & Sivers Co., Portland, Ore.



Carlton Plant, The Weyerhaeuser Co., Closter, New Jersey. Largest laminated members are 11" x 45 $\frac{1}{2}$ " x 68'8 $\frac{3}{8}$ ".

special products

Rilco also supplies special laminated members and products fabricated to your specifications. To obtain price quotation, please submit engineering drawings, if available, or a sketch indicating pertinent dimensions, loading conditions, spacing, and other requirements. Rilco Service Engineers will gladly consult with you regarding your requirements.



Glued laminated wood light standards and crossarms, St. Louis Park, Minnesota.

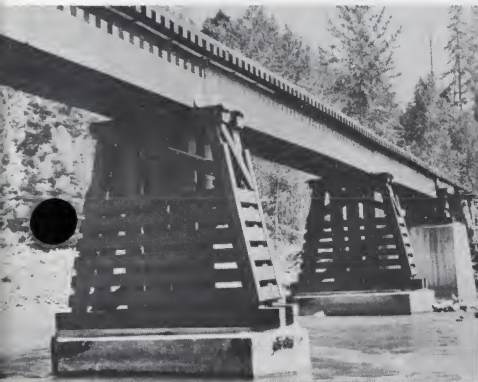


Curved, laminated seat boards in a Big Ten stadium.

BRIDGES



Huffaker Bridge near Randall, Wash. Main span truss is 120', approach spans are 50'. Bridge is designed to carry 54 tons.

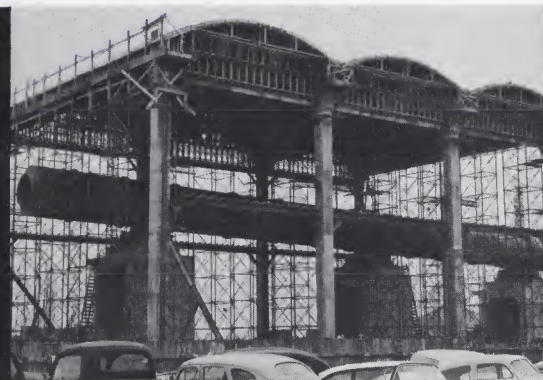


Bridge across the north fork of Toutle River, state of Washington. Girders have spans of 59'11", 60'4 3/8", 59'8 3/4". Bridge spans 180' 1/8" from bank to bank.

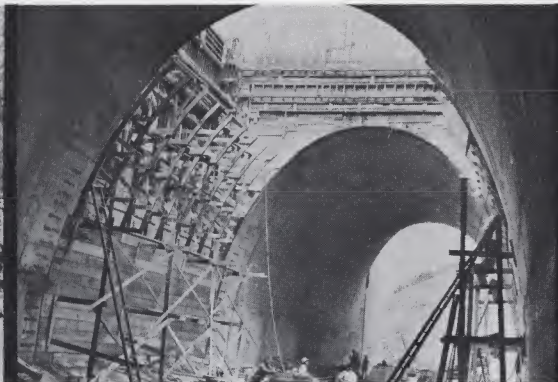


Parabolic arches in facilities at Glasshouse Point, Jamestown, Va.

FORMWORK



Ideal Cement Co. plant, Houston, Texas. Formwork arches are 35'2" in span and 70' above ground level. Each three bay section was poured monolithically.



Hogback Dam Diversion Tunnel, Colebrook, Conn. Tunnel is 675' long with an inside height of 47'. Laminated formwork was reused for successive pours.



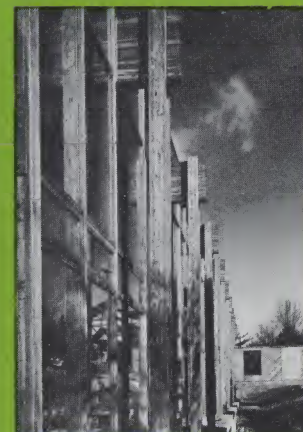
Shade structures, Cape Hatteras National Seashore Recreational Area, North Carolina.



Gravem Inglis Baking Co., Stockton, Calif. Building is 90' x 300' constructed with arches. Two other buildings, 75' x 240' and 120' x 260' are constructed with beams. Architect: D. E. Jaekle.



Blake, Moffett & Towne Building, Portland, Oregon. Constructed with 145 laminated beams. Architect: D. L. McConnell, Portland.



Laminated mullions, beams and columns, Grossinger swimming pool building, Grossinger, N. Y.

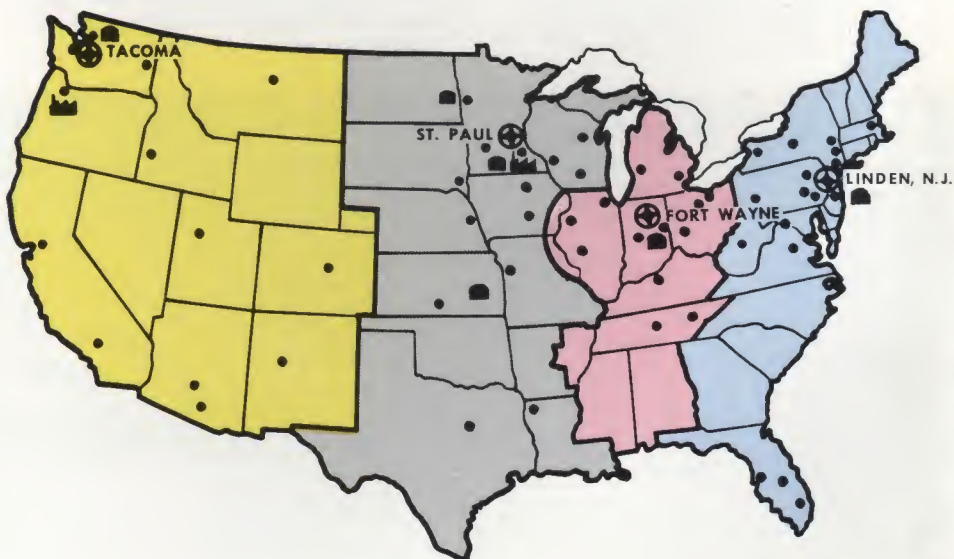
RILCO

Works Wonders With Wood



representation

- REPRESENTATIVE
 - WAREHOUSE
 - PLANT
 - ⊙ DISTRICT SALES OFFICE
- 705 South 9th Street
P.O. Box 1204, Tacoma 5, Wash.
BRoadway 2-2249
- W891 First National Bank Building
St. Paul 1, Minn.
CApital 4-4676
- 5416 Woodvale Drive
P.O. Box 396, Fort Wayne, Ind.
TRinity 6502
- 401 East Linden Ave.
Linden, N. J.
WAbash 5-1000



RILCO LAMINATED PRODUCTS

Charter Member American Institute of Timber Construction